

NODAWAY RIVER

WATERSHED

INVENTORY AND ASSESSMENT



This information is based on the
Nodaway River Watershed Inventory and Assessment

written by

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EXECUTIVE SUMMARY

The Nodaway River is a low gradient, sixth order river located in southwest Iowa and northwest Missouri. The Nodaway River originates in Adair County, Iowa and flows southward for about 120 miles where it empties into the Missouri River near the town of Nodaway, Missouri. The watershed drains 1,820 square miles [68% in Iowa (1,230 mi²) and 32% in Missouri (590 mi²)]. The Nodaway River basin lies entirely within the Dissected Till Plains physiographic region. The average annual discharge for the Nodaway River measured at Graham, Missouri (76% of the drainage basin) is 1,018 cubic feet per second. There are 156 third order and larger streams within the basin. Major tributaries in the Nodaway River basin are Seven Mile Creek, West Nodaway River, East Nodaway River, Middle Nodaway River, Clear Creek, Mill Creek, Elkhorn Creek, and Arapahoe Creek. Drainages in the basin are typical of altered prairie streams (i.e. turbid water and substrates of silt and sand).

The basin is rural with Clarinda, Iowa (population 5,104; 1990 Census) being the largest city in the watershed. Land use in the basin is dominated by agriculture (70 % row crop, 17 % pasture, and 6 % forest). Only one percent of the watershed is in public ownership. Extensive

channelization has eliminated 248 miles of stream. The larger streams (fourth, fifth, and sixth order) have had over sixty percent of their mileage altered, and a reduction in total stream miles of thirty percent.

Non-point source pollution (primarily siltation and sediment) is the major threat to basin waters. Soil loss from basin lands coupled with sediment deposition in stream channels has magnified high and low flow conditions. This limits the diversity and abundance of aquatic fauna in the Nodaway River basin. Increased numbers of large concentrated animal feeding operations are a new threat to basin waters.

Surveys conducted by Missouri Department of Conservation personnel, Iowa Department of Natural Resources personnel, and angler creel records have documented 47 species of fish within the basin. Wide ranging, tolerant species are the most common, with minnows of the Cyprinidae family being dominant. Fish of interest to anglers include channel catfish, common carp, largemouth bass, white crappie, sauger, bluegill, and green sunfish. A statewide creel survey in Missouri, conducted in the 1940's and 1950's found channel catfish and common carp the most frequently harvested fish in the Nodaway River. Recent angler surveys, for basin waters, are lacking. Eight species, currently state listed as endangered by Iowa and/or Missouri, inhabit or were at one time found in the Nodaway River basin.

Private ownership accounts for 99 % of basin lands, making private landowners a critical link in improving streams. The main objective should be to improve public perception of stream resources within the basin. This would allow all of the goals in this plan to be met. The main goals listed are: Improved water quality and quantity, improved riparian and aquatic habitats, preservation of a diverse native aquatic community, increased public appreciation for and awareness of area stream resources, and increased recreational use.

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